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(71) Applicant (for all designated States except US): UNIVERSITY OF CINCINNATI [US/US]; 3223 Eden Avenue, Wherry Hall G7, Box 670829, Cincinnati, OH 45267-0829 (US).

(72) Inventor; and

(75) Inventor/Applicant (for US only): JONES, Keith, W. [US/US]; 3223 Eden Avenue, Wherry Hall G7, Box 670829, Cincinnati, OH 45267-0839 (US).

(74) Agents: ALBAINY-JENEI, Stephen, R. et al.; Frost Brown Todd LLC, 2200 PNC Center, 205 East Fifth Street, Cincinnati, OH 45202 (US).

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(54) Title: OLIGONUCLEOTIDE DECOYS AND METHODS OF USE

(57) Abstract: The present invention describes reagents and methods for using a concatemered double-stranded oligonucleotide molecules (CODN) for transcription factor decoys. In one embodiment, the concatemers consist of a variable number of end-to-end repeated copies of a short (more than 5, 10, 15, 20, 2, 3035, 40, 45, 50, 75, 100, or more by but generally less than about 3 kb) dsDNA containing a sequence or sequences that act as transcription factor decoys. The present invention also provides for the use of the polymers for CODN/polymer complexes to a specific cell type; thus the agent can be made organ, tissue and/or cell-type specific. In another embodiment, the present invention provides for use of the CODN's in vitro or in vivo, in isolated cells or intact animals in which specific blockade of transcription factors or delivery of DNA or other biological effector is desirable. In one embodiment, this includes use as a research tool, including studies of specific genes and studies to identify specific genes regulated by the transcription factors targeted. In another embodiment, the present invention provides for using polyamides for NF-κB-specific CODN delivery in the treatment of myocardial ischemia/reperfusion and myocardial infarction, heart failure and hypertrophy, cardioprotection, stroke, neuroprotection, sepsis, arthritis, asthma, heritable inflammatory disorders, cancer, heritable immune dysfunctions, inflammatory processes, whether caused by disease or injury or infection, oxidative stress to any organ whether caused by disease, surgery or injury. The decoys may be any transcription factors, including, but not limited to, NF-κB, AP-1, ATF2, ATF3, SP 1 and others.



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